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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/777,104

02/13/2004

Hiroaki Kato

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BUCHANAN, INGERSOLL & ROONEY PC
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EXAMINER

RODEE, CHRISTOPHER D

ART UNIT

PAPER NUMBER

1756

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/25/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/777,104

Applicant(s)

KATO ET AL.

Examiner

Christopher RoDee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4,5,7-11,14,15 and 20-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4,5,7-11,14,15 and 20-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 27 December 2006 has been entered.

Claim Objections

Claim 22 is objected to because of the following informalities: new claim 22 contains an error in the manner in which the superscript is represented. Appropriate correction is required.

Claim Rejections - 35 USC § 103

Claims 1, 4, 5, 7-11, 14, 15, and 20-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Konya *et al.* in US Patent 6,777,152 in view of *Handbook of Imaging Materials*, 2nd edition, to Diamond, pp. 202-203 and further in view of Ohno *et al.* in US Patent 6,096,468.

Konya discloses a toner comprising a binder resin and a colorant and an external additive of a hydrophobicized complex Si-Ti oxide with a specific surface area of from 10 to 100 m²/g (Abstract; col. 6, l. 20-30; col. 8, l. 18-45; Examples). The complex oxide of Konya appears to meet the requirements of a composite oxide because it is formed from both silica and titania. The reference does not specify a wet granulation method for formation of the toner particles but Diamond teaches that a latex aggregation toner formation (i.e., wet granulation;

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see spec. ¶¶ [0029] – [0030]) method has become increasingly desirable because it permits the artisan to obtain small particles with a narrow particle size. It also permits various toner morphologies, from potato shaped to sphere (pp. 202-203). The specific numerical value of the toner is not disclosed but, as noted in the prior Office actions, a spherical shaped toner equates to a roundness of 1.00. Additionally, Ohno teaches that toners having a roundness (i.e., circularity) of 0.950 to 0.995, more preferably 0.970 to 0.990 having improved transfer performance and are useful in development of low potential latent images (col. 8, l. 43-55).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to produce the toner of Konya by a granulation (i.e., aggregation) method because this method permits the artisan to obtain small toner particles with a narrow particle size, which is desirable. The artisan would also have found it obvious to optimize the shape of the toner, such as in the range of from 0.950 to 0.995, because the Diamond reference teaches that the shape of a toner is usually modified and Ohno teaches a specific shape with a roundness of from 0.950 to 0.995, more preferably 0.970 to 0.990 to give improved transfer performance and better development of low potential images.

Applicants traverse the rejection as previously set forth because Konya does not disclose a wet-granulation method. However, Diamond does disclose such a method as discussed above. The latex aggregation method disclosed by Diamond appears to be the same type of method as the resin particle association method disclosed in the specification. The references in combination do disclose a toner formed from resin and colorant and produced by a wet granulation method.

In the traverse, applicants state “Konya *et al.* disclose an electrostatic image developer comprising spherical complex oxide fine particles of amorphous silica-titania obtained by

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atomizing a siloxane and an organic titanium compound in a flame for combustion.” Further applicants state, “one of ordinary skill in the art would recognize that a wet granulating method, as recited in claims 1 and 28, would impart distinctive structural characteristics to a toner that are different than a toner formed by atomizing a siloxane and organic titanium compound in a flame for combustion, as disclosed by Konya et al.” A review of the instant specification shows that the wet-granulation method refers to the method of making the toner particle containing the binder resin and colorant. This limitation is not on the external additives, which correspond to the hydrophobicized complex Si-Ti oxide in Konya. Konya's toner is not made by a process of atomizing a siloxane and organic titanium compound in a flame for combustion. Thus, applicants' remarks are not persuasive.

Applicants also traverse the rejection of claims 10 and 24 because the claimed hydrophobicity is not inherent. In applicants' view there is not sufficient scientific or technical reasons to show that the claimed hydrophobicity is necessarily present. Although Konya does not disclose the hydrophobic value of the hydrophobicized complex Si-Ti oxide, such as that of Examples 1-8 (col. 9), the reference clearly teaches that the reason the oxide is treated with the HMDS in the example is to make the oxide hydrophobic. The claimed range of acceptable hydrophobic values is very low (not less than 20 % hydrophobicity). Because Konya specifically teaches that the oxide is treated to make it hydrophobic there is no reason to believe it would be only marginally hydrophobic, such as with the lower limit of 20 %. Konya teaches that 500 g complex oxide is hydrophobicized with 25 g HMDS. Given the relatively large amount of the HMDS it appears that most of the oxide would be coated with it. This would give a relatively high hydrophobicity, certainly larger than 20 %. There is a scientific reason to believe that the claimed hydrophobicity is present in the oxide of Konya. The Examiner does not have to

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provide absolute certainty that the value is inherently present and has supplied a reasonable basis to believe it is present.

The combination of references as now applied fully responds to the other grounds of traversal present in applicants' remarks.

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Konya *et al.* in US Patent 6,777,152 in view of *Handbook of Imaging Materials*, 2nd edition, to Diamond, pp. 202-203 and further in view of Ohno *et al.* in US Patent 6,096,468 as applied to claims 1, 4, 5, 7-11, 14, 15, and 20-28 above, and further in view of Nakamura *et al.* in US Patent 6,967,070.

Konya, Diamond, and Ohno were described above. The references do not disclose the use of a wax as specific in dependent claim 29. However, Nakamura discloses a wax that is usefully included in a toner (Abstract). This wax permits the toner to be flash fused with minimal odor while also giving improved fixing strength.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the wax of Nakamura in the invention of Konya because the toner of Konya is formulated so that it can be fixed (col. 9, l. 1-5) and Nakamura discloses a wax that permits good flash fixing characteristics.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher RoDee whose telephone number is 571-272-1388. The examiner can normally be reached on Monday to Thursday from 5:30 to 4:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

cdr
17 January 2007



CHRISTOPHER RODEE
PRIMARY EXAMINER